FOS 100 DYNAMIC

User's Manual rel 2.0 **GB**

D.T.S. Illuminazione s.r.l. - ITALY
http://www.dts-lighting.it

DTS
The Lighting Company

Made in Italy

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DESCRIPTION

FOS 100 DYNAMIC is a new compact LED bar with power supply on board, designed for colouring large surfaces with a uniform projection, either indoor and outdoor. FOS 100 DYNAMIC can be used for many applications, such as: • professional, for an ample range of special events; • theatre and television, for uniform background colours and cycloramas; • architectural, for lighting building facades, public and commercial spaces, monuments, etc.
All models are made on aluminium offering high resistance to mechanical stress.
Protection rating can be IP65 (outdoor) or IP20 (indoor).
FOS 100 DYNAMIC light source is composed of 15 x 3W FULL RGBW LEDs which can independently generate 16 million colours; colour temperature can be controlled linearly from 3200°K to 5500°K.
The 15 FULL RGBW LEDs can generate the same colour at the same time (so that the illuminated object is not only uniformly lit, but also projects no false shadows) and different colours at the same time (indipended control for each FULL RGBW LED in 60 channels mode) in order to create an infinity combination of colours.
Three dedicated lenses sets (Spot, Medium flood and Wide floodl) are available for each model, offering different light beam projection angles.
Set-up and connection of the units is fast and easy, thanks to the dedicated on board power supply. FOS 100 DYNAMIC can be controlled via any DMX lighting console.

FOS 100 SOLO DYNAMIC IP65 (Spot) (Code 03.DYN007S.F10)
15 x 3W FULL RGBW LEDs • Spot lenses • Black finish
FOS 100 SOLO DYNAMIC IP65 (Medium) (Code 03.DYN007S.F25)
15 x 3W FULL RGBW LEDs • Medium lenses • Black finish
FOS 100 SOLO DYNAMIC IP65 (Wide) (Code 03.DYN007S.F40)
15 x 3W Full colour LEDs • Wide lenses • Black finish

FOS 100 SOLO DYNAMIC IP20 (Spot) (Code 03.DYN008S.F10)
15 x 3W FULL RGBW LEDs • Spot lenses • Black finish
FOS 100 SOLO DYNAMIC IP20 (Medium) (Code 03.DYN008S.F25)
15 x 3W FULL RGBW LEDs • Medium lenses • Black finish
FOS 100 SOLO DYNAMIC IP20 (Wide) (Code 03.DYN008S.F40)
15 x 3W FULL RGBW LEDs • Wide lenses • Black finish

All models are also available in grey silver colour.

LED technology
15 x 3W FULL RGBW LEDs
16 million colours; linear colour temperature 3200°K :÷ 5500°K; 16 selectable types of White
No infrared emission; no ultraviolet emission
LEDs average lifespan: 100.000 hours
Optical units
3 lenses sets available (Spot, Medium flood, Wide flood)
Control
Via any DMX lighting console
Protection
IP20 or IP65 protection level against the penetration of solids and liquids
Construction
FOS 100 DYNAMIC is made on aluminium
Power supply
Integrated power supply / LED controller

MAIN ELECTRICAL CHARACTERISTICS:

Input Voltage Range : Vin 90 - 260 VAC
Frequency : 50 - 60 Hz
Power Consumption: 150W
Power Factor (Pf) : 0.95 electronic PFC controller
Efficiency : 90% typical

Output:
Output Current : 350 mA @ 100% per channel (500 mA @ 100% per channel in Boost Mode)
Output Voltage : Vout 24V

Control Input:
Control Signal : DMX 512
Dimming System :Constant Current PWM
Address Range : DMX 512 channels addressable by display

ACCESSORIES

- Lenses set Spot available for each model
- Lenses set Medium flood available for each model
- Lenses set Wide flood available for each model

IMPORTANT SAFETY INFORMATION

Fire prevention:

Never locate the fixture on any flammable surface.
Minimum distance from flammable materials: 10 cm.
Replace any blown or damaged fuses only with those of identical value.

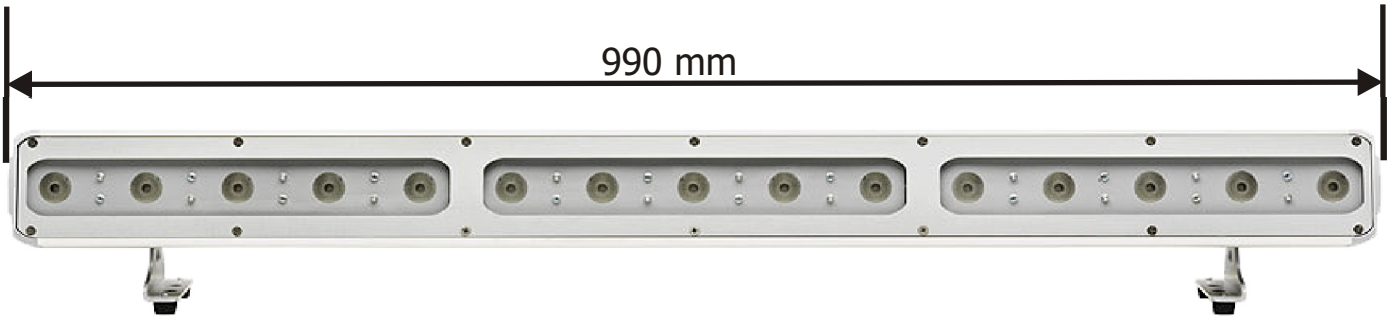
Prevention from electric shock:

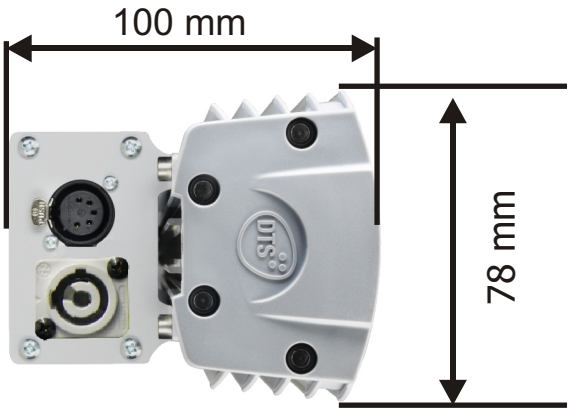
High voltage is present inside the unit.
Unplug the unit prior to performing any operation which involves touching the inside of the unit.
This equipment must be grounded, do not connect to non-grounded supplies.
The use of a thermal magnetic circuit breaker is recommended for each FOS 100 DYNAMIC unit.
Use only AC supplies 90-260V, 50-60Hz.
The unit should never be located in position exposed to rain or in areas of extreme humidity.
A good air ventilation is essential for proper equipment work.

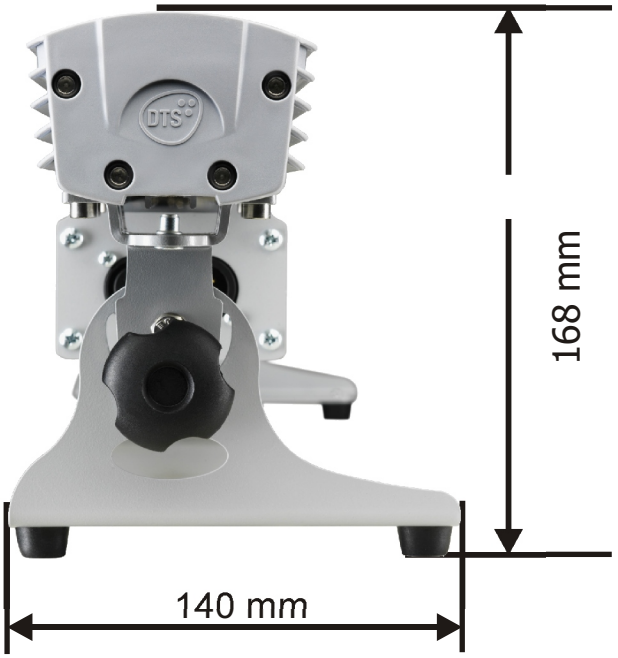
Safety:

The external surface of the unit may exeed 50°C; never handle the unit until at least 5 minutes have elapsed since the unit was turned off.
Never install the unit in an enclosed area lacking sufficient air flow.
The ambient temperature should not exeed 40°C and should not be lower than -10°C.

UNIT DIMENSIONS:





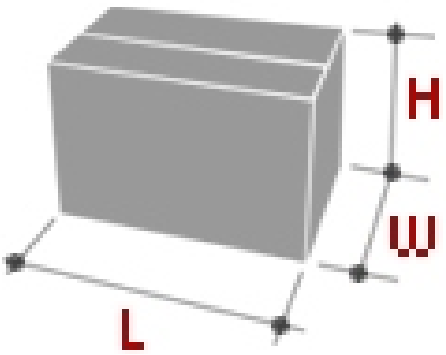


Unit Dimensions
(LxWxH)
990 x 100 x 78 mm

Weight
6,5 Kg

Packing Dimensions
(LxWxH)
1060 x 160 x 200 mm

Weight
7,5 Kg

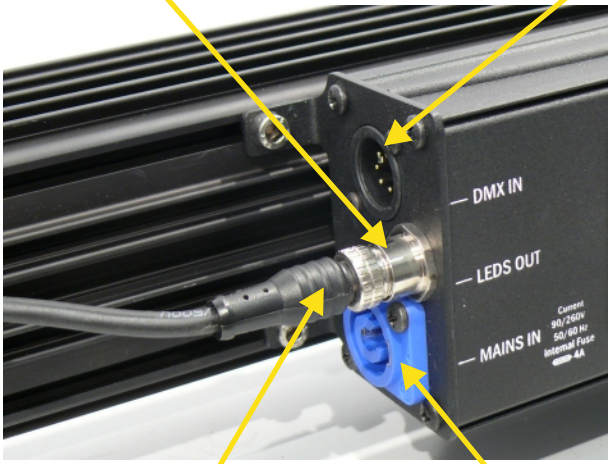


INPUT/OUTPUT CONNECTIONS

FOS 100 DYNAMIC IP20

M12 LED output
Female panel connector

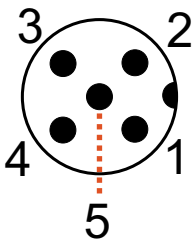
DMX IN/OUT
XLR 5 pins Male / Female
Panel Connectors



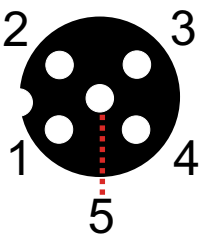
Mains 90-260 V AC
50-60 Hz input Powercon
Female panel connector

Mains 90-260 V AC
50-60 Hz output Powercon
Female panel connector
MAX load:
230 V AC = 20 FOS 100 DYNAMIC
100 V AC = 10 FOS 100 DYNAMIC

M12 - 5 PINS LED input
Male cable connector



M12 - 5 PINS LED output
Female panel connector

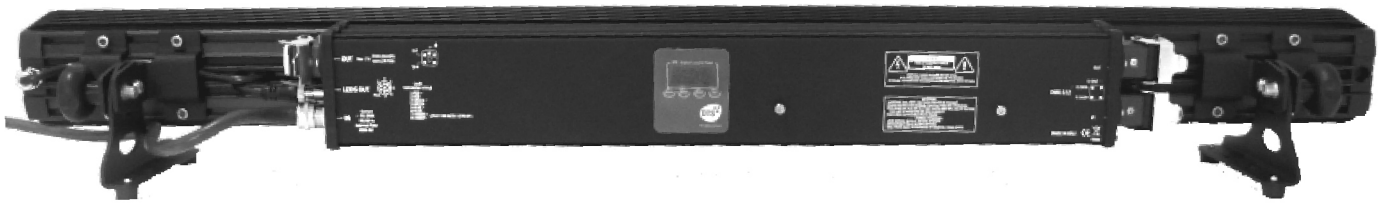


LEDS
CONNECTOR PINOUT

1 - DMX DATA -
2 - GROUND
3 - DMX DATA+
4 - 24V DC
5 - HEARTH

INPUT/OUTPUT CONNECTIONS

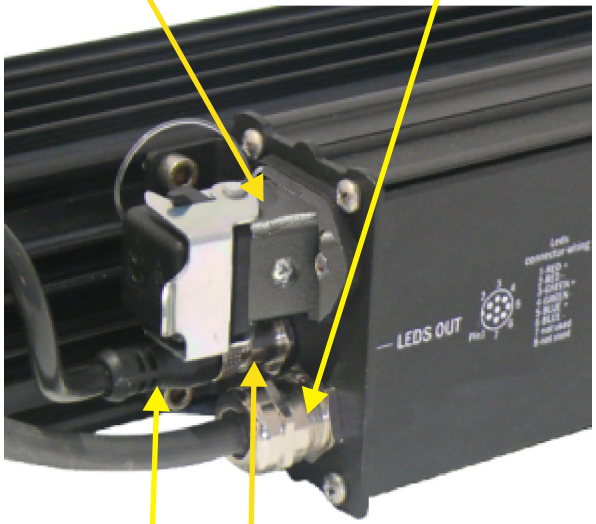
FOS 100 DYNAMIC IP65

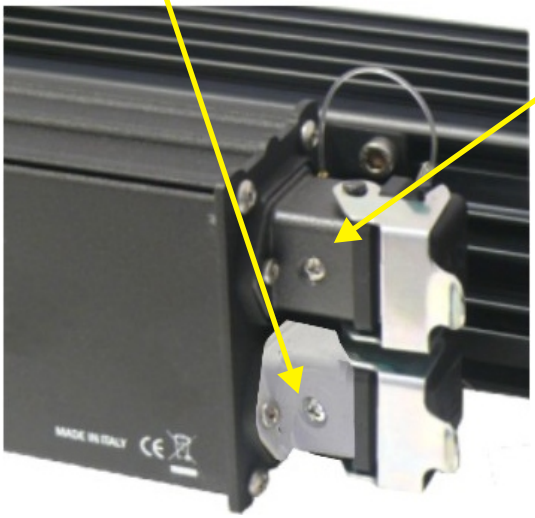


Mains 90-260 V Ac
50-60 Hz input cable

Mains 90-260 V Ac
50-60 Hz output ILME 5 pins
Female panel connector
MAX load:
230 V Ac = 20 FOS 100 DYNAMIC
100 V Ac = 10 FOS 100 DYNAMIC

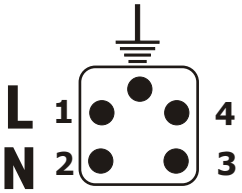
DMX IN/OUT
ILME 4 pins Female
Panel Connectors



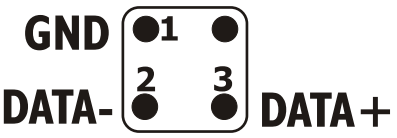


DMX IN/OUT
ILME 4 pins Female
Panel Connectors

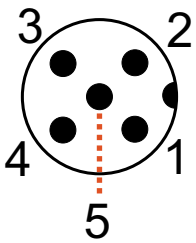
MAINS OUTPUT
FEMALE PANEL CONNECTOR



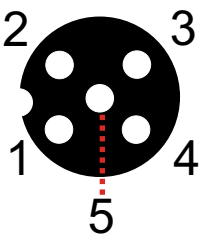
DMX IN-OUT
FEMALE PANEL CONNECTOR



M12 - 5 PINS LED input
Male cable connector



M12 - 5 PINS LED output
Female panel connector



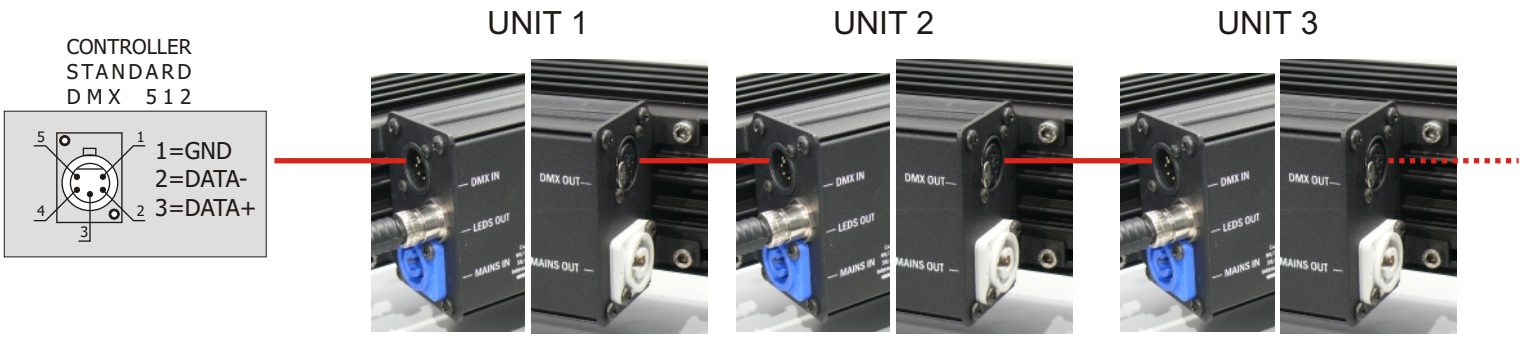
LEDS
CONNECTOR PINOUT

1 - DMX DATA -
2 - GROUND
3 - DMX DATA+
4 - 24V DC
5 - HEARTH

DMX SIGNAL CONNECTION:

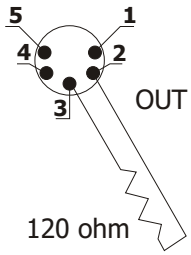
FOS 100 DYNAMIC IP20

The unit operates using a digital DMX 512 signal. Connection between the controller and the unit or between units must be carried out using a two pair screened ø 0.5 mm.
Ensure that the conductors do not touch each other. Do not connect the cable ground to the DMX connector chassis. The plug housing must be isolated. Connect the mixer signal to the DMX IN projector plug and connect it to the next projector by connecting the DMX OUT plug on the first unit to the DMX IN plug of the second one.
In this way, all the projectors are cascade connected.

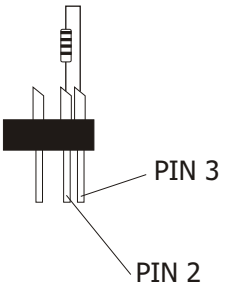


P.S:
If the display showing the DMX address flashes, then one of the following errors has occurred:
- DMX signal not present
- DMX reception problem

For Installations where long distance DMX cable connections are needed, we suggest to use a DMX terminator.
The DMX terminator is a male XLR 3-5 pins connector with a 120 ohm resistor Between pin 2 and 3.
The DMX terminator must be plugged into the last unit (DMX out panel connector) of the DMX line.



PLACE A 120 OHM RESISTOR BETWEEN PIN 2 AND 3 OF A MALE XRL CONNECTOR AND PLUG IT INTO THE DMX OUT PANEL CONNECTOR OF THE LAST UNIT CONNECTED TO THE DMX LINE

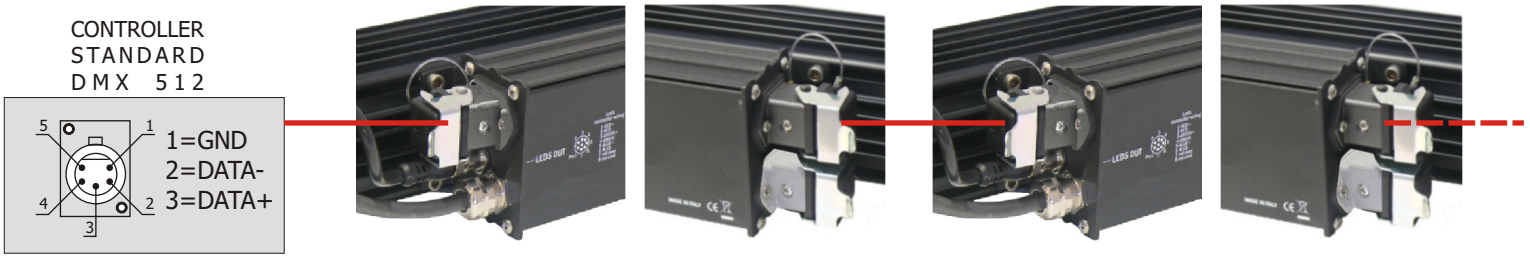


The standard configuration of the FOS 100 DYNAMIC is with XLR 5 pins connectors.

DMX SIGNAL CONNECTION:

FOS 100 DYNAMIC IP65

The unit operates using a digital DMX 512 signal. Connection between the controller and the unit or between units must be carried out using a two pair screened ø 0.5 mm.
Ensure that the conductors do not touch each other. Do not connect the cable ground to the DMX connector chassis. The plug housing must be isolated. Connect the mixer signal to the DMX IN projector plug and connect it to the next projector by connecting the DMX OUT plug on the first unit to the DMX IN plug of the second one.
In this way, all the projectors are cascade connected.



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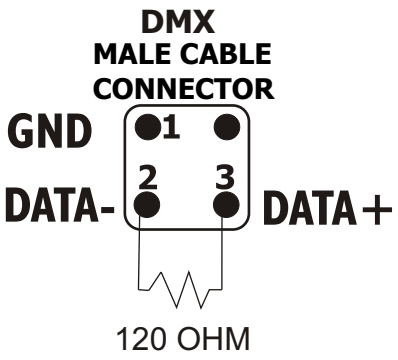
The DMX terminator is a male DMX cable connector with a 120 ohm resistor Between pin 2 and 3.
The DMX terminator must be plugged into the DMX out panel connector of the last unit connected to the DMX line.



PLACE A 120 OHM RESISTOR BETWEEN PIN 2 AND 3 OF A MALE DMX CONNECTOR AND PLUG IT INTO THE DMX OUT PANEL CONNECTOR OF THE LAST UNIT CONNECTED TO THE DMX LINE

DMX ADDRESS

FOS 100 DYNAMIC can be used in 3 different DMX modes: 10 DMX channels, 14 DMX channels (RGBWE) or 60 DMX channels (default).

If you want to use the FOS 100 DYNAMIC in 10 channels mode, select the 10 CH mode from the MODE menu and set the following addresses on the mixer:

Projector 1 A001

Projector 2 A011 If you want to select the next projector, just add "10"

Projector 3 A021

….. A….

projector 6 A051

If you want to use the FOS 100 DYNAMIC in 14 channels mode, select the 14 CH mode from the MODE menu and set the following addresses on the mixer:

Projector 1 A001

Projector 2 A015 If you want to select the next projector, just add "14"

Projector 3 A029

….. A….

projector 6 A071

If you want to use the FOS 100 DYNAMIC in 60 channels mode, select the 60 CH mode from the MODE menu and set the following addresses on the mixer:

Projector 1 A001

Projector 2 A061 If you want to select the next projector, just add "60"

Projector 3 A121

….. A….

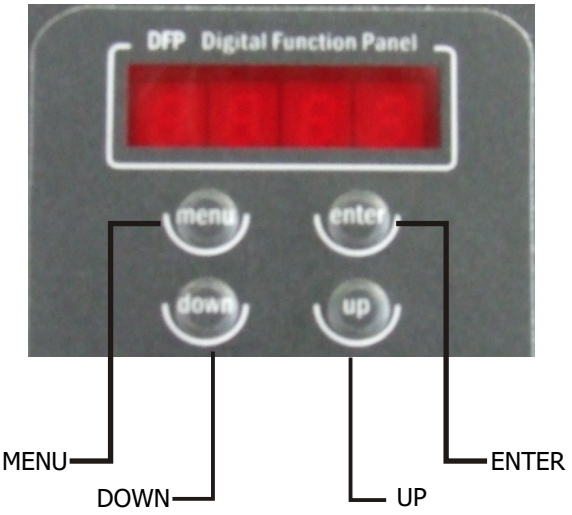
projector 6 A301

Selelcting the DMX address

1) Press the UP-DOWN key until you reach the required DMX address. The numbers on the display will start to flash (but the new DMX address hasn't yet been set).
2) Press ENTER to confirm your selection. The numbers on the display will stop flashing and the projector is now controlled by the new DMX address.

TIPS: if you keep pushed the UP or DOWN keys, the channels are calculated more quickly and you get a faster selection.

DISPLAY FUNCTIONS



DISPLAY FUNCTIONS

The FOS 100 DYNAMIC display panel shows all the available functions . Using these functions, it is possible to change some of the parameters and add some functions. Changing the D.T.S. setting can vary the functions of the unit so that it does not respond to the DMX 512 signal used to control it. Carefully follow the instructions below before carrying out any variations or selections.
NOTE: the symbol ☞ shows which key has to be pushed to obtain the desired function.

Software version 1.05

A001 — MENU ☞ Up-Down ☞ dISP — ENTER ☞ Up-Down ☞ POS1 — ENTER ☞ Up-Down ☞

REVERSE DISPLAY
Reverses display's reading depending on the mounting position (on the ground or suspended).

- AA — Floor position — ENTER ☞
- UU — Suspension position — ENTER ☞

DISPLAY STAND BY
To turn off the display (after 5 seconds) or leave it always on.

Up-Down ☞ StbY — ENTER ☞ Up-Down ☞

- oFF — Display OFF — ENTER ☞
- on — Display always ON — ENTER ☞

MENU ☞ Up-Down ☞ nodE — ENTER ☞ Up-Down ☞ 10cH — 10 CHANNELS — ENTER ☞ CH1 = SHUTTER, CH2 = DIMMER, CH3 = RED, CH4 = GREEN, CH5 = BLUE, CH 6 = AMBER, CH7 = WHITE, CH8 = CTC, CH9 = MACRO, CH10 = FUNCTION

DMX MODE
To select DMX mode: 10, 14 or 60 DMX channels (default)

Up-Down ☞ 60cH — 60 CHANNELS — ENTER ☞ Default DMX Mode = 60 CH

Up-Down ☞ 14cH — 14 CHANNELS — ENTER ☞ CH1 = SHUTTER, CH2 = DIMMER, CH3 = RED, CH4 = GREEN, CH5 = BLUE, CH6 = AMBER CH7 = EFFECT1, CH8 = COLOUR1, CH9 = PARAM1, CH10 = LEVEL1, CH11 = EFFECT2, CH12 = COLOUR2, CH13 = PARAM2, Ch14 = LEVEL2

MENU Up-Down **MACr** ENTER Up-Down **Std** ENTER Standard mode enabled (Default)

MACRO
MACRO Function, enable channel mapping macro rainbow effects
STD (default)

EHt ENTER Show Custom settings

MENU Up-Down **LEd** ENTER Up-Down **rEd** ENTER Up-Down **MIn** Default = 0 ENTER

LED
RGBW Min/Max, Smooth, Compression, Sync and Boost level values settings

MAH Default = 100 ENTER

RGBW MINIMUM VALUES
This menu allow to select the minimum levels for Red, Green, Blue and White

Up-Down **GrEE** ENTER Up-Down **MIn** Default = 0 ENTER

MAH Default = 100 ENTER

RGBW MAXIMUM VALUES
This menu allow to select the maximum levels for Red, Green, Blue and White

Up-Down **bLUE** ENTER Up-Down **MIn** Default = 0 ENTER

MAH Default = 100 ENTER

These settings have priority on Master Dimmer channel

Up-Down **UHIt** ENTER Up-Down **MIn** Default = 0 ENTER

SMOOTH VALUE
This menu allow to select the value of the delay (in milliseconds) for RGB and Dimmer channels reaction to DMX or Program variation.
Off=25 ms delay (Fast response)
20=250 ms delay (Slow response)

MAH Default = 100 ENTER

Up-Down **SMtH** ENTER Up-Down **4** Range = Off-20 Default = 4 ENTER

Off = 25 ms
Istant responce to DMX variation

20 = 250 ms
Smooth response to DMX variation

COMPRESSION
This menu allow to select between linear current output or quadratic current output for LEDs
Default = Linear

Up-Down **COMP** ENTER Up-Down **LInE** Linear = Linear current output ENTER

QUAd Quadratic = Linear light output ENTER

SYNC
This menu allow to adjust the PWM frequency value (Hz) in order to reduce flickering in the process of your camera recordings

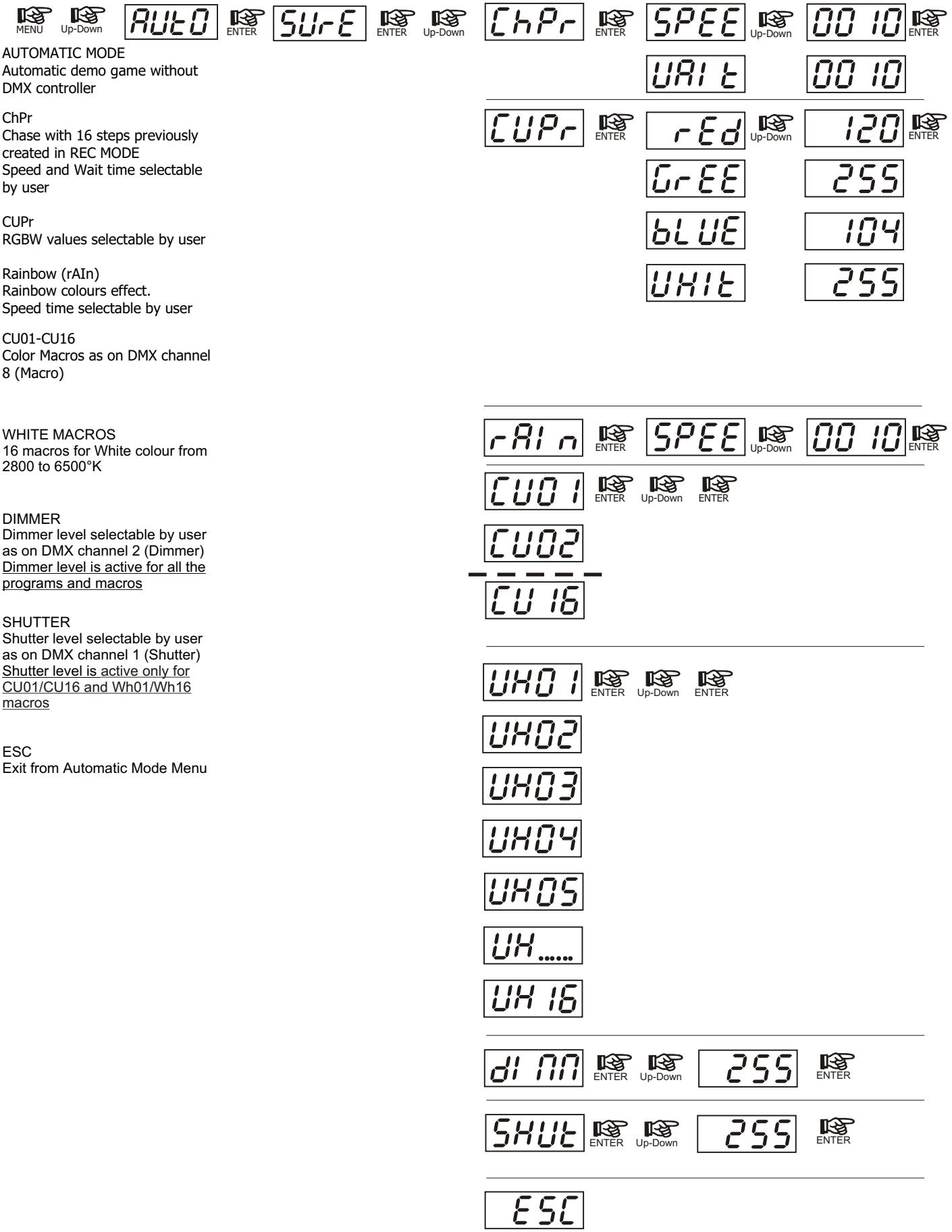
Up-Down **SYnC** ENTER Up-Down **1000** f = 1000 Hz ENTER

BOOST DRIVING
This menu allow to increase the LED's current from 350 mA to 500 mA

bSt ENTER Up-Down **On** Boost mode activated ENTER

Up-Down **OFF** Boost mode deactivated ENTER

With BOOST active, the LED's current is set to 500 mA (30%more gain).
Default = Activated



AUTOMATIC MODE
Automatic demo game without DMX controller

ChPr
Chase with 16 steps previously created in REC MODE
Speed and Wait time selectable by user

CUPr
RGBW values selectable by user

Rainbow (rAIn)
Rainbow colours effect.
Speed time selectable by user

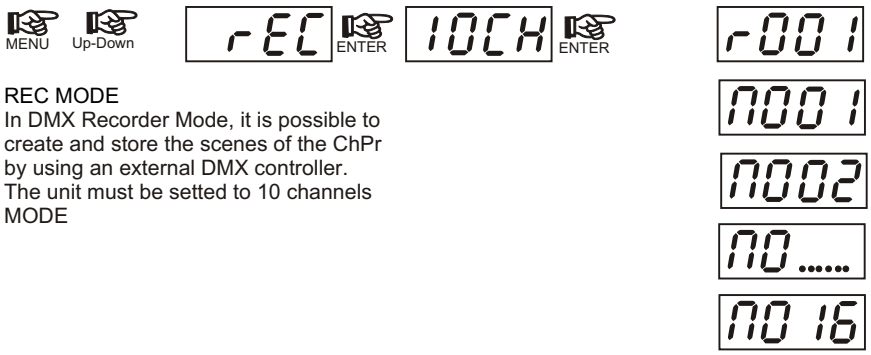
CU01-CU16
Color Macros as on DMX channel 8 (Macro)

WHITE MACROS
16 macros for White colour from 2800 to 6500°K

DIMMER
Dimmer level selectable by user as on DMX channel 2 (Dimmer)
Dimmer level is active for all the programs and macros

SHUTTER
Shutter level selectable by user as on DMX channel 1 (Shutter)
Shutter level is active only for CU01/CU16 and Wh01/Wh16 macros

ESC
Exit from Automatic Mode Menu



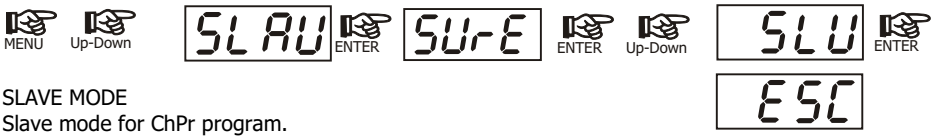
REC MODE
In DMX Recorder Mode, it is possible to create and store the scenes of the ChPr by using an external DMX controller.
The unit must be setted to 10 channels MODE

DMX Recorder Mode
For the programming of ChPr by using a DMX controller, besides the 10 channels necessary to control the unit a further 3 DMX channels are needed.
So that in RECORDER mode (via DMX) the unit will need 13 channels to be correctly programmed.
The three new DMX channels are:

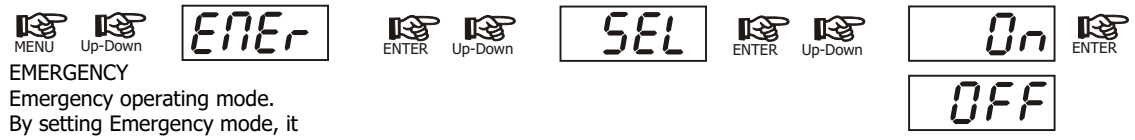
DMX channel 11 = SCENES channel
From 0-10 = no function (r001)
From 11-255 are displayed the programmable scenes (max 16 scenes from M001 to M0016)

DMX channel 12 = EDIT channel:
-From 0-19 = no function
-From 20-234 the unit runs the configuration given by the received input DMX values.
With the channel SCENES it is possible to pass from one step to the next while with REC it is possible to record the selected scene.
-From 235-255 the unit runs the configuration given by the received input DMX values closing the sequence as last scene.
With the channel REC it is possible to record the selected scene as last scene.

DMX channel 13 = RECORDING channel
Records the set scene with a variation between 0 to 255 (the display flashes indicating that the scene has been recorded). It is advised that you keep the REC channel set to 0 and to run through the 255 only once you have decided to save the scene. If ChPr is not closed, by indicating the last scene (Edit channel between 235-255), in playback mode all 16 scenes will be played through even if not programmed.

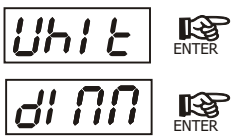


SLAVE MODE
Slave mode for ChPr program.
All slave units will be synchronised with master unit, running their own Chpr program.



EMERGENCY
Emergency operating mode.
By setting Emergency mode, it will be possible to select one of the 16 preprogrammed WHITE cues that will then ran if DMX signal is missing or not available.
Usefull for Emergency EXIT illumination on public areas.

Default = OFF



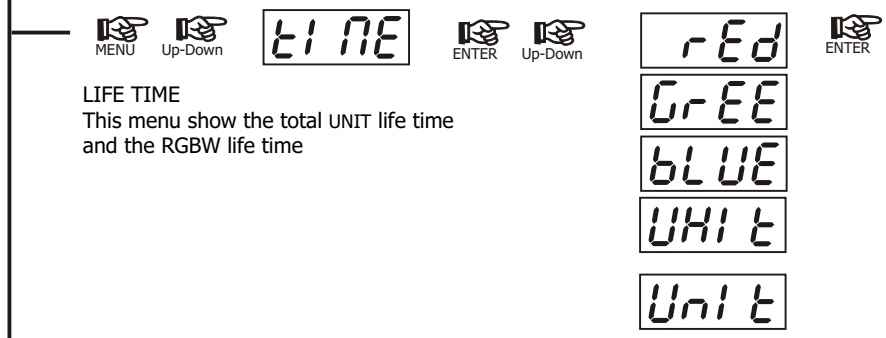
Default = White 1

Default = 255

DEFAULT
To restore default settings

TEMPERATURE
T1, T2 and T3 temperatures visualisation

T1, T2 and T3 temperatures (° Celsius)



LIFE TIME
This menu show the total UNIT life time and the RGBW life time

TEST MODE
RGBW LEDs test with rainbow

SOFTWARE
Unit software version and LED driver cards software version

DMX PROTOCOL

60 CHANNELS MODE (Default)

1 RED1
2 GREEN1
3 BLUE1
4 WHITE1
5 RED2
6 GREEN2
7 BLUE2
8 WHITE2

----
57 RED15
58 GREEN15
59 BLUE15
60 WHITE15

DMX CHANNEL	**1**	Parameter: **RED1**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	**2**	Parameter: **GREEN1**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	**3**	Parameter: **BLUE1**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	**4**	Parameter: **WHITE1**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

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DMX CHANNEL	**57**	Parameter: **RED15**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	**58**	Parameter: **GREEN15**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	**59**	Parameter: **BLUE15**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	**60**	Parameter: **WHITE15**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX PROTOCOL

14 CHANNELS MODE

1 SHUTTER
2 DIMMER
3 RED
4 GREEN
5 BLUE
6 WHITE
7 EFFECT 1
8 COLOUR 1
9 PARAM 1
10 LEVEL1
11 EFFECT 2
12 COLOUR 2
13 PARAM 2
14 LEVEL 2

DMX CHANNEL	1	Parameter: **SHUTTER**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-9	**5**				**Black-out**
10-19	**14**				**Open**
20-29	**24**				**Black-out**
30-119					**Strobe at variable speed from slow to fast (3400ms-20ms)**
120-149					**Pulse open at variable speed from slow to fast (43s-100ms)**
150-179					**Pulse close at variable speed from slow to fast (43s-100ms)**
180-204	**192**				**Random Strobe (Master and RGB active)**
205-229	**218**				**Random Strobe (Full)**
230-255	**240**				**Open**

DMX CHANNEL	2	Parameter: **DIMMER**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional dimmer**

DMX CHANNEL	3	Parameter: **RED**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	4	Parameter: **GREEN**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	5	Parameter: **BLUE**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	6	Parameter: **WHITE**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	7	Parameter: **EFFECT 1**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
000 - 047	**023**				**NO EFFECT**
048 - 063	**056**				**Background**
064 - 079	**070**				**Hystogram Left**
080 - 095	**087**				**Hystogram Right**
096 - 111	**104**				**Hystogram Multicolor Left**
112 - 127	**120**				**Hystogram Multicolor Right**
128 - 143	**136**				**Continous Shift Right**
144 - 159	**152**				**Continous Shift Left**
160 - 175	**168**				**Wave Right**
176 - 191	**184**				**Wave Left**
192 - 207	**200**				**Random Strobo**
208 - 223	**215**				**Random Strobo Random Colour**
224 - 239	**232**				**Pulse**
240 - 255	**247**				**Random Pick**

DMX CHANNEL	8	Parameter: **COLOUR 1**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Colour Selection**

DMX CHANNEL	9	Parameter: **PARAM 1**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Effect 1 Parameter**

DMX CHANNEL	10	Parameter: **LEVEL 1**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional Dimmer Effect 1**

DMX CHANNEL	11	Parameter: **EFFECT 2**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
000 - 047	**023**				**NO EFFECT**
048 - 063	**056**				**Background**
064 - 079	**070**				**Hystogram Left**
080 - 095	**087**				**Hystogram Right**
096 - 111	**104**				**Hystogram Multicolor Left**
112 - 127	**120**				**Hystogram Multicolor Right**
128 - 143	**136**				**Continous Shift Right**
144 - 159	**152**				**Continous Shift Left**
160 - 175	**168**				**Wave Right**
176 - 191	**184**				**Wave Left**
192 - 207	**200**				**Random Strobo**
208 - 223	**215**				**Random Strobo Random Colour**
224 - 239	**232**				**Pulse**
240 - 255	**247**				**Random Pick**

DMX CHANNEL	12	Parameter: **COLOUR 2**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Colour Selection**

DMX CHANNEL	**13**	Parameter: **PARAM 2**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Effect 1 Parameter**

DMX CHANNEL	**14**	Parameter: **LEVEL 2**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional Dimmer Effect 2**

DMX PROTOCOL

10 CHANNELS MODE

1 SHUTTER
2 DIMMER
3 RED
4 GREEN
5 BLUE
6 WHITE
7 WHITE PRE-PROGRAMMED
8 CTC
9 COLOURS MACRO
10 FUNCTIONS

DMX CHANNEL	1	Parameter: **SHUTTER**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-9	**5**				**Black-out**
10-19	**14**				**Open**
20-29	**24**				**Black-out**
30-119					**Strobe at variable speed from slow to fast (3400ms-20ms)**
120-149					**Pulse open at variable speed from slow to fast (43s-100ms)**
150-179					**Pulse close at variable speed from slow to fast (43s-100ms)**
180-204	**192**				**Random Strobe (Master and RGBW active)**
205-229	**218**				**Random Strobe (Full)**
230-255	**240**				**Open**

DMX CHANNEL	2	Parameter: **DIMMER**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional dimmer**

DMX CHANNEL	3	Parameter: **RED**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	4	Parameter: **GREEN**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	5	Parameter: **BLUE**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	6	Parameter: **WHITE**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	7	Parameter: **WHITE (Pre-programmed White at diff. color temperature)**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-55	**23**				**No Function**
56-105	**80**				**Full (Red-Green-Blue-White at Full)**
106-155	**130**				**White DTS**

IF CHANNEL 10 (FUNCTIONS) = CUSTOM WHITE RECALL (Dmx range value 0 - 79)

156-205	**180**	**Custom White Recall**
206-255	**225**	**White CTC (Channel 7 CTC enabled 256 color temp. Correction Macros: 2800°K-6500°K)**

IF CHANNEL 10 (FUNCTIONS) = CUSTOM WHITE CREATE (Dmx range value 80 - 160)

156-205	**180**	**Custom White Create (RGB levels selectable by DMX)**
206-255	**225**	**White CTC (Channel 7 CTC enabled 256 color temp. Correction Macros: 2800°K-6500°K)**

DMX CHANNEL	8	Parameter: **CTC (Color temperature correction)**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function

IF CHANNEL 6 (White) = WHITE CTC (Dmx range value 206 - 255)

0-255	**256 color temp. Correction Macros: 0 = 2800°K / 128 = 4500°K / 255 = 6500°K**

IF CHANNEL 6 (White) = NO FUNCTION (Dmx range value 0 - 55)

0-255	**No Function**

DMX CHANNEL	9	Parameter: **COLOUR MACROS**

IF: MENU Up-Down MODE ENTER Up-Down MACr ENTER Up-Down Std ENTER **PLEASE CHECK PAGE 11**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-14					**No Function**
15-29					**Macro 1**
30-44					**Macro 2**
45-59					**Macro 3**
60-74					**Macro 4**
75-89					**Macro 5**
90-104					**Macro 6**
105-119					**Macro 7**
120-134					**Macro 8**
135-149					**Macro 9**
150-164					**Macro 10**
165-179					**Macro 11**
180-194					**Macro 12**
195-209					**Macro 13**
210-225					**Macro 14**
226-239					**Macro 15**
240-255					**Macro 16**

DMX CHANNEL	9	Parameter: **COLOUR MACROS**

IF: MENU Up-Down MODE ENTER Up-Down MACr ENTER Up-Down EHt ENTER **PLEASE CHECK PAGE 11**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-14					**No Function**
15-22					**Macro 1**
23-30					**Macro 2**
31-38					**Macro 3**
39-46					**Macro 4**
47-54					**Macro 5**
55-62					**Macro 6**
63-70					**Macro 7**
71-78					**Macro 8**
79-86					**Macro 9**
87-94					**Macro 10**
95-102					**Macro 11**
103-110					**Macro 12**
111-118					**Macro 13**
119-126					**Macro 14**
127-134					**Macro 15**
135-142					**Macro 16**

DMX CHANNEL	9	Parameter: **COLOUR MACROS**

IF: MENU Up-Down ENTER Up-Down ENTER Up-Down ENTER **PLEASE CHECK PAGE 11**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
143-150					**Rainbow Speed 1 (1 Sec.)**
151-158					**Rainbow Speed 2 (5 Sec.)**
159-166					**Rainbow Speed 3 (10 Sec.)**
167-174					**Rainbow Speed 4 (20 Sec.)**
175-182					**Rainbow Speed 5 (30 Sec.)**
183-190					**Rainbow Speed 6 (60 Sec.)**
191-198					**Rainbow Speed 7 (120 Sec.)**
199-206					**Rainbow Speed 8 (180 Sec.)**
207-214					**Random Speed 1 (0.5 sec.)**
215-222					**Random Speed 2 (1 Sec.)**
223-230					**Random Speed 3 (2 Sec.)**
231-238					**Random Speed 4 (5 Sec.)**
239-246					**Random Speed 5 (10 Sec.)**
247-255					**Random Speed 6 (30 Sec.)**

DMX CHANNEL	10	Parameter: **FUNCTIONS (Recall,Create and Store the Custom white)**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-79		**Custom White Recall (Enable CH 7 for Custom white Recall)**			
80-160		**Custom White Create (Enable CH 7 for Custom white Creation)**			
161-255		**Custom White Store (Store the Custom White created)**			

NOTE:

NOTE:

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